

EXHIBIT A

United States Patent [19]

Greenspan et al.

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[54] CLEANING COMPOSITIONS WITH ORANGE OIL

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[58] Field of Search 424/443, 401; 514/783

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Attorney, Agent, or Firm—Timothy J. Martin

[57] ABSTRACT

A cleaning composition for cleaning the skin contains orange oil, a pharmaceutically acceptable moisturizer and an emulsifying agent, Preferably the orange oil accounts for between 5% and 60% by volume, and it further preferred that the composition contains 40% orange oil by volume. The moisturizer is either glycerin, aloe vera, jojoba oil, safflower oil or a combination thereof. The emulsifying agent preferably is oatmeal. The composition is constituted to have a pH of between 4.5 and 6.0, and the composition may be packaged as moistened towlelets in hermetic packets.

12 Claims, No Drawings

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CLEANING COMPOSITIONS WITH ORANGE OIL**FIELD OF THE INVENTION**

The present invention generally relates to cleaning compositions suitable for external application to human skin tissue in order to remove unwanted substances such as tar, caulking compounds, sealants, adhesives and the like. More specifically, however, the present invention is directed to a natural cleaning composition that utilizes only plant based ingredients. As such, the present invention is particularly adapted for cleaning non-water soluble products from the human skin in a safe, effective manner.

BACKGROUND OF THE INVENTION

A wide variety of cleaning compositions are known for external application to skin tissue in order to remove dirt and unwanted materials. Among these cleaning compounds are the various hard and liquid soaps which may be used for cleaning human skin, especially the hands. However, numerous substances with which the hands may be soiled do not respond to ordinary soap compositions. Examples of substances that are difficult to remove include grease, tar, oils, ink, caulking materials, adhesives, sealants, gums, cosmetics and other non-water soluble products.

While some cleaning compositions have been developed for these materials, the typical cleaners are harsh and can damage the skin, especially after prolonged use. Examples of these compounds include turpentine, acetone, toluene and other petroleum based products as well as ammonia based products. These products, though, often damage the skin and otherwise exhibit a high level of toxicity. Further, if inhaled during use, these petroleum based products may cause respiratory damage. When absorbed through the skin, the petroleum based products can cause damage to the major organs of the body and can have a less serious side effect of drying and chaffing the skin where applied. Thus, it should be appreciated that, although petroleum is a naturally occurring product, it is not toxilogically healthy for the human body. Accordingly, there have been substantial efforts which have been made to find suitable alternative substances for skin cleaning. While some synthetically derived substances have been developed, many of these substances are medically suspect, and in some instances produce side effects making them unsuitable for use on a regular basis.

Orange oil, as a natural product derived from the rind of oranges, has been recognized in the past to have some cleaning capabilities. Prior to the present invention, however, it is not believed that the suitability of orange oil in cleaning human skin was realized. Orange oil by itself is a skin irritant that can cause inflammation of the tissues. When used by itself, fumes from orange oil may cause headaches, dizziness and other side effects. Accordingly, it has not been readily apparent that orange oil alone or in combination with other substances could prove effective in cleaning compounds otherwise difficult to remove from the tissues of the skin. Rather, efforts in the past have been directed to the combination of orange oil with other cleaning solvents to produce floor cleaners, glass cleaners and the like.

From the foregoing, it should be appreciated that the thrust of prior development of skin cleaners, other than soap, have been directed to petroleum based products and ammonia based products and the industry has ig-

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nored the potential for orange oil as a constituent of skin cleaning compounds. Despite the long felt need for better cleaners, the suitability of orange oil has thus not been recognized, and the inventors of the subject invention have found success by examining this substance contrary to the direction of inquiry adopted by the industry at large.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a new and useful compound for cleaning the human skin.

Another object of the present invention is to provide a skin cleaning compound suitable for cleaning non-water soluble products such as grease, caulking, adhesives, sealants, tar, oils, ink and the like.

Yet another object of the present invention is to provide a skin cleaning composition which is non-toxic.

It is a further object of the present invention is to provide a skin cleaning composition that is derived from natural vegetable and plant sources.

Still a further object of the present invention is to provide a skin cleaning composition that not only removes unwanted substances from the human skin but also acts to help clean and revitalize the human skin.

The present invention, then, provides a skin cleaning composition which is adapted for external use on human tissues. Broadly, this composition comprises a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent. Preferably, the moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, and safflower oil. Further, it is preferred that the emulsifying agent also function as an emollient. Preferably the emulsifying agent is a natural grain derivative, preferably either oat gum or oatmeal. Further, it is preferred that the first, second, and third ingredients are selected and mixed in a ratio such that the resulting skin cleaning composition has a pH range of between 4.5 and 6.0 inclusively. To this end, a fourth ingredient in the form of a buffering compound may be added to the composition.

In the more specific composition according to the preferred embodiment, the cleaning composition comprises forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of the emulsifying agent and the pharmaceutically acceptable moisturizer. The preferred emulsifying agent in this composition is oatmeal, and the preferred moisturizer is a mixture of jojoba oil, aloe vera and glycerin mixed by volume of approximately two parts jojoba oil, two parts aloe vera and one part glycerin. It is further desired to use a small portion of safflower oil both as a moisturizer and to help form a stable emulsion.

These and other objects of the present invention will become more readily appreciated and understood from a consideration of the following detailed description of the preferred embodiment:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention is directed to a cleaning composition utilized on skin tissues and having, as its cleaning ingredient, the commercially available substance known as orange oil derived from the rinds of oranges. In this broad form, the composition includes orange oil,

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an emulsifying agent and a pharmaceutically acceptable moisturizer. In order to determine the preferred composition of the present invention, a series of samples having differing properties were evaluated to establish a desired range in pH and to establish the necessary proportion of orange oil to give suitable cleaning. These test samples are set forth below.

In their investigation of cleaning compositions according to the present invention, Applicants first investigated several compositions which were mixtures of orange oil, water, moisturizers and vitamin E. These samples were developed to test the cleaning properties of orange oil and to evaluate orange oil mixed with moisturizing agents. A test group of ten persons, male and female, were selected to subjectively evaluate the results of these samples. Initially, three such samples were prepared, and the compositions are set forth as Samples I-III, as follows:

SAMPLE I

Ingredient	Volume Percent (Approximate)
Orange Oil	39
Water	33
Glycerin*	12
Aloe Vera*	12
Jobaba Oil*	3
Vitamin E	1

*Total Moisturizers accounted for approximately 27% by volume.

SAMPLE II

Ingredient	Volume Percent (Approximate)
Orange Oil	34.5
Water	27.5
Glycerin*	17
Aloe Vera*	14
Jobaba Oil*	3.5
Vitamin E	3.5

*Total Moisturizers accounted for approximately 34.5% by volume.

SAMPLE III

Ingredient	Volume Percent (Approximate)
Orange Oil	37
Water	26
Glycerin*	14.75
Aloe Vera*	14.75
Jobaba Oil*	3.5
Vitamin E	4

*Total Moisturizers accounted for approximately 33% by volume.

Prior to presenting these samples to the test group, Applicants tested the relative acidity of the samples since it was believed desirable to avoid a composition that was either too acidic or too basic. The result of this acidity measurement, correlated to the Samples, is set forth in Table I below:

TABLE I

Sample	pH (Approximate)
I	4.5
II	5
III	4.7

In each of the cases of Samples I-III, the respective components were mixed and blended in an attempt to form an emulsion. An initial problem was noted with each of these Samples, however, in that the emulsion separated, that is, "broke" after approximately one to

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two days. Since it was fairly simple to re-blend the Samples, Samples I-III were submitted to the test group for evaluation. Generally, the results of the composition was excellent with each of Samples I-III readily removing polyurethane and silicone base caulking compounds, tars, grease, oil and adhesives; each of these industrial type substances are regarded as difficult to remove, from the human hands. All ten members of the test group reported comparable cleaning properties and reported that their hands were left soft after a two week period of using the compounds. Indeed, after two weeks of use, certain male members of the test group who had dry hands resulting from the use of other solvents noted substantial improvement in the texture and softness of their hands. No allergic reactions were reported by any members of the test group.

After determining that test Samples I-III performed adequately in cleaning the hands and in moisturizing the hands, it became necessary to determine whether the oil orange and moisturizer emulsion could be stabilized so that it would not break over a period of time. In order to determine if a natural ingredient could act as an emulsifying agent, the Applicants selected a grain base derivative as an emulsifying agent. To this end, Applicants tested oatmeal gum and oatmeal to act as the primary emulsifier. Accordingly, two more test samples, Samples IV and V were prepared according to the compositions set forth below:

SAMPLE IV

Ingredient	Volume Percent (Approximate)
Orange Oil	42.75
Aloe Vera*	7
Jobaba Oil*	3.5
Safflower Oil*	4
Oatmeal Gum	42.75

*Total Moisturizers accounted for approximately 14.5% by volume.

SAMPLE V

Ingredient	Volume Percent (Approximate)
Orange Oil	36.5
Aloe Vera	14
Jobaba Oil*	14
Glycerin*	7
Safflower Oil*	0.5
Oatmeal	28

*Total Moisturizers accounted for approximately 35.5% by volume.

It may be noted that, in Samples IV and V, vitamin E and water were both omitted from the composition. However, it should be noted that both the oatmeal gum in Sample IV and the oatmeal in Sample V each contain a portion of water. In Sample IV, the oatmeal gum was prepared by boiling rolled oats in water and straining the resultant mass to remove the hulls. In Sample V, rolled oats were boiled in water and the resulting mass (containing approximately 50% water) was used to prepare the composition. Relatively equal parts of orange oil and oat derivatives were used and a small portion of safflower oil was included. Again, relative acidity was tested and it was found that Sample IV had a pH of approximately 5.0 while Sample V had a pH of 5.5.

Samples IV and V were submitted to the test group to evaluate cleaning effectiveness and moisturizing ability. Further, observation of the two compositions were

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made to determine whether or not the emulsions broke. The results of this study determined that the emulsion of Sample IV broke after approximately seven days while the emulsion according to Sample V did not separate over any observed duration of time (several months). The test group observed that the cleaning properties of Samples IV and V were almost, but not quite, as effective as the cleaning properties of Samples I-III, but that the cleaning effectiveness was estimated at approximately 90% of Samples I-III. With respect to Sample IV, the test group reported that their hands did not roughen, but that the sample did not feel as comfortable when on the hands. With respect to Sample V, the test group reported that the emulsion both felt comfortable on the hands and left their hands soft after approximately five days of regular usage. In each case, the emulsions were able to clean all caulking materials and tars, including silicone and polyurethane based caulking compounds as well as oil and grease from the skin. Further tests were conducted on compositions similar to Sample V were in the amount of orange oil was slightly increased while holding the amounts of the remaining ingredients constant until the emulsion broke. It was found that, with these compositions, the emulsion broke when orange oil accounted for approximately 38% by volume of the composition.

From the foregoing, Applicants determined that Sample V offered the best compromise among emulsion stability, cleaning effectiveness, and skin effect. Therefore, utilizing Sample V as a reference, Applicants adjusted the amount of orange oil (ignoring whether the emulsion broke) to determine an effective pH range wherein the composition felt comfortable on the human hands. A first set of samples set forth below as Samples VI-IX were prepared to be less acidic than Sample V, and a second set of test samples, set forth below as Samples X-XIII were tested for compositions having greater acidity than Sample V. Samples VI-IX were prepared by simply buffering Sample V with differing amounts of sodium bicarbonate. The resulting samples were buffered to have pH values according to Table 2 as follows:

TABLE 2

Sample	pH (Approximate)
VI	9.0
VII	8.0
VIII	7.0
IX	6.0

Each of Samples VI-IX were evaluated by the test group. Samples VI and VII were reported to immediately make the hands dry upon first application of the respective composition and removal of the composition with water. With respect to Samples VIII and IX, the test group reported less drying than Samples VI and VII although more dryness of the hands was noted in comparison to test Sample V. These empirical observations lead Applicants to conclude that an acidity of at least pH 6.0 is desirable, that is, that the preferred composition should not be more basic than pH 6.0.

To evaluate test compositions for excess acidity, Applicants merely increased the amount of orange oil in test Sample V while holding the amounts of the remaining ingredients constant to obtain desired acidity levels according to Table 3, below:

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TABLE 3

Sample	pH (Approximately)
X	2.5
XI	3.0
XII	3.5
XIII	4.0

Test Sample X had a volume percent of approximately 80% orange oil, Sample IX had orange oil of approximately 70% by volume, Sample XII had orange oil of approximately 60% by volume, and Sample XIII had orange oil of approximately 50% by volume.

It had previously been found that orange oil alone exhibited excellent cleaning properties, but left the hands feeling too dry and too astringent. With respect to Samples X-XIII, in each case no emulsion formed. The test group reported that each of Samples X-XIII had excellent cleaning properties, but the emulsions felt too astringent on the hands even after limited use. Applicants accordingly concluded that it was desirable that the emulsified composition have a pH that is approximately 4.5. Thus, Applicants further concluded that the composition according to the preferred embodiment of the present invention should have a pH of between 4.5 and 6.0, inclusively.

As noted in the above examples, the emulsions according to Sample V broke at approximately 38% orange oil by volume. In order to evaluate cleaning properties as a function of percent volume of orange oil, additional samples were prepared wherein the weight percentages of the ingredients other than orange oil was held constant while the amount of orange oil was varied to provide differing volume percentages of orange oil. Accordingly, Samples XIV-XVII were prepared to have volume percents of orange oil approximately 5%, 10%, 15% and 25%, respectively. In each case, the emulsions were stable. These Samples XIV-XVII were given to the test group to subjectively evaluate cleaning effectiveness. With respect to Sample XIV, the test group reported that cleaning properties were substantially reduced; Sample XIV could not effectively clean tar or caulking compounds. Indeed, Sample XIV was only effective in removing cosmetics from the skin. Sample XV eventually was able to remove silicone caulking compounds but was unable to remove polyurethane caulking or tar. With respect to Sample XVI, the test group reported about 50%-60% of the cleaning effectiveness of Sample V with no marked increase in benefits in skin softening. Sample XVII was reported to have approximately 80% of the cleaning effectiveness of Sample V in removing all of the tested materials, but again there was no report of skin enhancements over Sample V.

From these tests, Applicants concluded that, with respect to cosmetics, a composition according to the present invention could have as little as 5% by volume of orange oil although it was preferable to have a cleaning composition having at least 25% by volume of orange oil.

To determine whether the moisturizers had any effect on the composition or whether pH was the dominant skin effecting property, Applicants prepared yet another sample, Sample XVIII, wherein 100% orange oil was buffered with sodium bicarbonate so that it had a pH of 5.5. This Sample XVIII was tested and it was determined that it was exceptionally drying and astringent.

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gent on the human hands. Indeed, Sample XVIII proved almost as drying and astringent as Sample X.

In order to increase the amount of orange oil, Applicants further tested a variation on Sample V wherein both the amount of orange oil and the amount of oatmeal were increased while the amount of moisturizers was decreased. This Sample XIX, was prepared as follows:

SAMPLE XIX

Ingredient	Volume Percent (Approximate)
Orange Oil	40.5
Aloe Vera*	7.75
Jojoba Oil*	7.75
Glycerin*	4.5
Safflower Oil*	.5
Oatmeal	39

*Total Moisturizers accounted for 20.5% by volume.

From Sample XIX, it was concluded that orange oil could be increased, along with a corresponding increase in an oat grain derivative, until approximately 45% by volume of orange oil was included in the composition. Any amount of orange oil in excess of this amount would result in the diminishment of moisturizers so as to negate the softening effect of the hand cleaning composition according to the preferred invention.

Other samples, set forth below as Samples XX-XXIII were prepared utilizing other materials. These samples are as follows:

SAMPLE XX

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Olive Oil	25
Jojoba Oil	25
Baking Soda	Trace

SAMPLE XXI

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Glycerin	50

SAMPLE XXII

Ingredient	Volume Percent (Approximate)
Orange Oil	50
Aloe Vera	50

SAMPLE XXIII

Ingredient	Volume Percent (Approximate)
Orange Oil	12.5
Vitamin E	87.5

Sample XX was found to have a pH of approximately 8.5. While Sample XX was deemed effective in cleaning, there was some reduction of cleaning effectiveness over Sample V and the composition left a dryness when wiped off of the skin. Further, the emulsion broke almost immediately. With respect to Samples XXI and XXII, both samples left a sticky residue on the hands but were approximately equal in cleaning effectiveness to Sample V. Sample XXI had a pH a little greater than 2.0 while Sample XXII had a pH of approximately 3.5.

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It was thus observed that aloe vera had some buffering effect on the acidity of the orange oil. Each of Samples XXI and XXII were highly astringent and left the test groups hands dry after washing with water. With respect to Sample XXIII, again this sample proved effective in removing cosmetics, but the sample was not effect in removing heavier, industrial substances such as caulking compounds, adhesives, tars and the like. The orange oil and Vitamin E, however, did mix without separation and a resulting acidity of pH 5.0.

From the information derived from all of the aforementioned samples, Applicants determined that glycerin and safflower oil are both desirable in the preferred compositions. On one hand glycerin appears both to stabilize the emulsion and perform as a moisturizer while, on the other hand, safflower oil appears to act as an emulsion stabilizer, as an emulsifying agent and as a moisturizer.

According to the above, Applicants prefer the compositions set forth in Sample V and Sample XIX for use in cleaning unwanted materials from human skin. In order to test administration of the preferred composition, Applicants applied the compound directly to the skin as a liquid emulsion and removed the emulsion from the hands by washing with water. In addition, Applicants were successful in soaking towellets, formed of standard absorbent material such as paper, cloth and the like, in the liquid emulsion so that a towellet would become impregnated with the cleaning composition. These towellets can be hermetically sealed in standard foil packages, as known in the industry, so that the user can simply remove from the skin any of the described unwanted materials with a pre-moistened towellet. This is particularly useful in situations where water is not readily available. Further, individualized packets of pre-moistened towellets are convenient for portability and on-the-job use.

From the foregoing, the inventors have concluded that a suitable skin cleaning composition can be prepared wherein the skin composition has a first ingredient of between 5% and 60% by volume of orange oil, a second ingredient being a pharmaceutical acceptable moisturizer for human skin and a third ingredient being an emulsifying agent. Preferably, the moisturizer is either one or more of a group of moisturizers selected from the following: glycerin, aloe vera, jojoba oil, safflower oil. However, other pharmaceutically acceptable moisturizers are within the scope of this invention as could be developed without undue experimentation by the ordinarily skilled chemist according to the teachings of the present invention. One example of such a moisturizer is glycerin stearate. These other compositions are thus intended, unless otherwise specifically limited, to be encompassed by the general phrase "moisturizer" both in this specification and in the appended claims. In any event, it is preferred that the resultant composition have a pH between 4.5 to 6.0 and can be so buffered if necessary by the utilization of aloe vera or a buffering agent, such as baking soda.

Accordingly, the present invention has been described with some degree of particularity directed to the preferred embodiment of the present invention. It should be appreciated, though, that the present invention is defined by the following claims construed in light of the prior art so that modifications or changes may be made to the preferred embodiment of the present inven-

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tion without departing from the inventive concepts contained herein.

We claim:

1. A skin cleaning composition adapted for external use on human tissues, comprising a first ingredient being between five percent (5%) and sixty percent (60%) by volume of orange oil, a second ingredient being a pharmaceutically acceptable moisturizer for human skin and a third ingredient being an emulsifying agent in the form of an oat grain derivative product.

2. A skin cleaning composition according to claim 1 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, and safflower oil.

3. A skin cleaning composition according to claim 1 wherein said oat grain derivative product is one of oat gum and oatmeal.

4. A skin cleaning composition according to claim 1 wherein said first, second and third ingredients are selected and mixed in a ratio such that the resulting skin cleaning composition has a pH range of between 4.5 to 6.0, inclusively.

5. A skin cleaning composition according to claim 1 including as a fourth ingredient a buffering compound in a proportion such that the resulting composition is pH balanced within a range of 4.5 to 6.0, inclusively.

6. A skin cleaning composition for external use on human tissues, comprising orange oil, a pharmaceutically acceptable moisturizer for human skin and an oat grain derivative product as an emulsifying agent, wherein said composition has a pH within a range of 4.5 to 6.0, inclusively.

7. A skin cleaning composition according to claim 5 including a buffering compound.

8. A skin cleaning composition according to claim 5 wherein said moisturizer is selected from a group consisting of: glycerin, aloe vera, jojoba oil, safflower oil and glycerol stearate.

9. A cleaning composition for use on human skin comprising forty-five percent (45%) or less by volume of orange oil, forty-five percent (45%) or less by volume of oatmeal and a pharmaceutically acceptable moisturizer.

10. A cleaning composition according to claim 8 wherein said moisturizer is a mixture of jojoba oil, aloe vera and glycerin.

11. A cleaning composition according to claim 1 wherein said mixture includes by volume two parts jojoba oil, two parts aloe vera and one part glycerin.

12. A cleaning composition according to claim 9 wherein said mixture includes safflower oil.

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EXHIBIT B

REDACTED

EXHIBIT C

Phillip Low

January 14, 2006

Boulder, CO

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UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

LP MATTHEWS, LLC,)

Plaintiff,)

v.)

BATH & BODY WORKS, INC.;) CASE NO.:

LIMITED BRANDS, INC.;) 04-CV-01507 SLR

KAO BRANDS CO. (f/k/a THE)

ANDREW JERGENS COMPANY);)

and KAO CORPORATION,)

Defendants.)

- - - - -

DEPOSITION OF PHILLIP LOW

Saturday, January 14, 2006

Reported by:

Craig L. Knowles, CM

Henderson Legal Services
(202) 220-4158

Phillip Low

January 14, 2006

Boulder, CO

2	<p>1 Boulder, Colorado</p> <p>2 Saturday, January 14, 2006</p> <p>3</p> <p>4 Deposition of PHILLIP LOW, a witness</p> <p>5 herein, called for examination by counsel for</p> <p>6 Defendants in the above-entitled matter, pursuant</p> <p>7 to notice and the Federal Rules of Civil Procedure,</p> <p>8 the witness being previously duly sworn by CRAIG</p> <p>9 KNOWLES, a Notary Public in and for the State of</p> <p>10 Colorado, taken at the Boulder Marriott, Telluride</p> <p>11 Room, 2660 Canyon Boulevard, Boulder, Colorado, at</p> <p>12 9:23 a.m., on Saturday, January 14, 2006, and the</p> <p>13 proceedings being taken down in Stenotype by CRAIG</p> <p>14 KNOWLES and transcribed under his direction.</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>	4	<p>1 APPEARANCES (Cont'd)</p> <p>2</p> <p>3 For Defendants Bath & Body Works and Limited</p> <p>4 Brands:</p> <p>5 John F. Ward, Esquire</p> <p>6 WARD & OLIVO</p> <p>7 708 Third Avenue</p> <p>8 New York, New York 10017</p> <p>9 212-697-6262</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>
3	<p>1 APPEARANCES</p> <p>2</p> <p>3 For Plaintiff:</p> <p>4 Robert A. Auchter, Esquire</p> <p>5 Jason R. Buratti, Esquire</p> <p>6 ROBINS, KAPLAN, MILLER & CIRESI, LLP</p> <p>7 Suite 1200</p> <p>8 1801 K Street, Northwest</p> <p>9 Washington, D.C. 20006-1307</p> <p>10 202-775-0725</p> <p>11</p> <p>12 For Defendants KAO Corp. and KAO Brands:</p> <p>13 Stephen G. Baxter, Ph.D., Esquire</p> <p>14 Richard L. Chinn, Ph.D., Esquire</p> <p>15 OBLON, SPIVAK, McCLELLAND, MAIER &</p> <p>16 NEUSTADT, P.C.</p> <p>17 1940 Duke Street</p> <p>18 Alexandria, Virginia 22314</p> <p>19 703-413-3000</p> <p>20</p> <p>21</p> <p>22</p>	5	<p>1 CONTENTS</p> <p>2 THE WITNESS: PAGE NO.</p> <p>3 PHILLIP LOW</p> <p>4 By Mr. Ward..... 6</p> <p>5 By Mr. Baxter..... 92</p> <p>6</p> <p>7 E-X-H-I-B-I-T-S</p> <p>8 LOW EXHIBIT NO. PAGE NO.</p> <p>9 1 Copy of Assignment, LPM 000012/14 38</p> <p>10 2 One-page handwritten document PL 0002 39</p> <p>11 3 Agreement PL 0001 44</p> <p>12 4 Promissory Note PL 0003/4 47</p> <p>13 5 Copy of envelope from Mr. Brady PL 00005 48</p> <p>14 6 Letter, Low to Ingram, 6/16/93 52</p> <p>15 7 Letter, Greenspan to Low, 6/26/93,</p> <p>16 PL 0007 54</p> <p>17 8 Envelope, Greenspan to Low, 6/21/93 57</p> <p>18 9 Undated Letter, Greenspan to Low PL 0009 75</p> <p>19 10 Copy of check stub PL 0010 78</p> <p>20 11 Three-page document, 11/17/89 DG6001/03 109</p> <p>21 12 Two-page document DG3271/72 113</p> <p>22</p>

Phillip Low

January 14, 2006

Boulder, CO

<p style="text-align: right;">6</p> <p>1 PROCEEDINGS:</p> <p>2 - - -</p> <p>3 Whereupon,</p> <p>4 PHILLIP LOW,</p> <p>5 called for examination by counsel for Defendants</p> <p>6 and, having been previously duly sworn to the</p> <p>7 truth, the whole truth and nothing but the truth,</p> <p>8 was examined and testified further upon his oath</p> <p>9 as follows:</p> <p>10 - - -</p> <p>11 EXAMINATION BY COUNSEL FOR DEFENDANT</p> <p>12 BATH & BODY WORKS and LIMITED BRANDS</p> <p>13 BY MR. WARD:</p> <p>14 Q. Good morning, Mr. Low.</p> <p>15 A. Good morning.</p> <p>16 Q. My name is John Ward, I'm with Ward & Olivo</p> <p>17 in New York, and I represent Limited Brands and</p> <p>18 Bath3 & Body Works in this action.</p> <p>19 Have you ever been deposed before?</p> <p>20 A. Yes.</p> <p>21 Q. Would you tell me what were the</p> <p>22 circumstances of that?</p>	<p style="text-align: right;">8</p> <p>1 Q. Okay. Before that, school?</p> <p>2 A. Before that I was in school.</p> <p>3 Q. Did you graduate from high school?</p> <p>4 A. I did.</p> <p>5 Q. Any college?</p> <p>6 A. None.</p> <p>7 Q. Any technical training?</p> <p>8 A. Nope.</p> <p>9 Q. It's my understanding that you are the man</p> <p>10 who had the idea to use orange in a cleaning</p> <p>11 composition, is that true?</p> <p>12 A. That's true.</p> <p>13 Q. Can you tell me how that came about, how'd</p> <p>14 you get that idea?</p> <p>15 A. I was installing windows, and when you</p> <p>16 install windows, you have polyurethane type</p> <p>17 sealants that you use, two-part. And you get it</p> <p>18 all over your hands.</p> <p>19 Q. Tell me, what --</p> <p>20 A. Nothing really cleans it off.</p> <p>21 Q. Take me through the process. So you are</p> <p>22 installing a window.</p>
<p style="text-align: right;">7</p> <p>1 A. It was a building lawsuit.</p> <p>2 Q. Were you the plaintiff?</p> <p>3 A. We were.</p> <p>4 Q. How did it turn out?</p> <p>5 A. We won.</p> <p>6 Q. Good. Just so you know, you know, I'm</p> <p>7 going to ask a series of questions, you'll answer.</p> <p>8 You can't nod or make sounds that the court</p> <p>9 reporter can't record for us.</p> <p>10 And any time you feel like you'd like to</p> <p>11 take a break, say the word.</p> <p>12 A. Okay.</p> <p>13 Q. What do you do for a living?</p> <p>14 A. I have a home improvement and construction</p> <p>15 company.</p> <p>16 Q. How long have you had that?</p> <p>17 A. Ten years.</p> <p>18 Q. What did you do before that?</p> <p>19 A. I was a subcontract window installer.</p> <p>20 Q. Do you recall how long you were doing that</p> <p>21 for?</p> <p>22 A. Yeah, I have been doing that since 1979.</p>	<p style="text-align: right;">9</p> <p>1 A. Right.</p> <p>2 Q. You've got a frame. Run us through it.</p> <p>3 A. Well, you have a window opening. You take</p> <p>4 out the wood sashes. It depends how the window is</p> <p>5 measured, how the new system is going to go in.</p> <p>6 You are from the east, right?</p> <p>7 Q. Yes. You can tell, huh?</p> <p>8 A. You have a lot of wood windows, a lot of</p> <p>9 historic looking products, right.</p> <p>10 Q. Yes, indeed.</p> <p>11 A. Okay. What we will do is, we will take out</p> <p>12 the wooden sashes, leave the buck frame in. Then</p> <p>13 what we do is, we have a system that is</p> <p>14 historically replicated to cap over all of the old</p> <p>15 wood on the outside. And it's a new window frame</p> <p>16 that goes in on the inside and has new sashes and</p> <p>17 everything else. Then we seal up the outside, sort</p> <p>18 of a panning system out there. We seal up the</p> <p>19 panning system to make it weather tight. We put</p> <p>20 trims on the inside and seal that up to make it</p> <p>21 weather tight.</p> <p>22 Q. All right.</p>

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<p style="text-align: right;">10</p> <p>1 A. The caulking that we have to use, they</p> <p>2 need to have a very high flexibility rate. Have to</p> <p>3 be real durable stuff.</p> <p>4 Q. The reason is?</p> <p>5 A. So that they last 20 years. Ten year</p> <p>6 warranty, but if you go with a little bit stronger</p> <p>7 product, you don't -- you can't use a regular latex</p> <p>8 household type product. You have to use something</p> <p>9 that has kind of more your industrial adhesions,</p> <p>10 movements and those kind of things.</p> <p>11 Q. Okay.</p> <p>12 A. So that is the window process.</p> <p>13 Q. Thanks. I got new windows coming in, so I</p> <p>14 want to know what I'm looking forward to.</p> <p>15 A. Yours might be different. This is</p> <p>16 commercial. You may get vinyls.</p> <p>17 Q. Well, we'll see. Thank you, anyhow. So</p> <p>18 now we are up to, did you say polyurethane?</p> <p>19 A. Yeah, polyurethane type sealants.</p> <p>20 Q. What do you do?</p> <p>21 A. Use a caulking gun, they come in tubes, use</p> <p>22 a caulking gun or there's big sausages, different</p>	<p style="text-align: right;">12</p> <p>1 does the stuff start to harden?</p> <p>2 A. It's an oil based product so it stains, you</p> <p>3 get stains on your hands. It can last up to a week</p> <p>4 if you don't try to use something to take it off.</p> <p>5 Q. Okay.</p> <p>6 A. The only things we found that works is</p> <p>7 toluene or acetone or gasoline, the only stuff that</p> <p>8 removes this stuff.</p> <p>9 Q. Stuff like Goop doesn't work?</p> <p>10 A. No, Goop didn't work, pumices didn't work,</p> <p>11 none of that stuff works.</p> <p>12 Q. I think we are probably up on the orange</p> <p>13 part?</p> <p>14 A. We are up to the orange part. Okay?</p> <p>15 Q. Unless you tell me otherwise.</p> <p>16 A. This was like 10:30 at night and it was the</p> <p>17 first week in December because the Parade of lights</p> <p>18 was going on down below.</p> <p>19 Q. Do you remember the year?</p> <p>20 A. Yeah, it was 1988.</p> <p>21 Q. Okay?</p> <p>22 A. We were -- actually, I was working by</p>
<p style="text-align: right;">11</p> <p>1 means of putting this stuff on. It gets all over</p> <p>2 you because you are using your fingers to tool it.</p> <p>3 Q. Fill in the spots?</p> <p>4 A. Yeah, when you are caulking, it's like</p> <p>5 icing on the cake. It's the pretty part, yet it's</p> <p>6 the function part, too, because it weatherproofs,</p> <p>7 stains.</p> <p>8 You are also using a product called Fooz,</p> <p>9 which is manufactured out of parts, vinyl parts</p> <p>10 that you use to fill cracks and crevices and stuff</p> <p>11 like that, hardens up.</p> <p>12 All this stuff gets on your hands, because,</p> <p>13 you know, even ink gets on your hands, I don't know</p> <p>14 how it does, but it gets everywhere.</p> <p>15 Q. Sure.</p> <p>16 A. That is how the caulking gets on your</p> <p>17 hands.</p> <p>18 Now with respect to the orange product, is</p> <p>19 that where you want to go.</p> <p>20 Q. In a second.</p> <p>21 A. Okay.</p> <p>22 Q. Tell me. You have the caulk on your hands,</p>	<p style="text-align: right;">13</p> <p>1 myself, 10:30 at night, trying to caulk these</p> <p>2 windows up.</p> <p>3 Q. Obviously it was your business.</p> <p>4 A. My business.</p> <p>5 Q. I understand that part.</p> <p>6 A. I was trying to caulk the windows, 10th</p> <p>7 floor, and my wife packed me a lunch and the only</p> <p>8 thing I had left to eat was an orange, I needed</p> <p>9 something.</p> <p>10 Q. Sure.</p> <p>11 A. Work late obviously, wanted to get done.</p> <p>12 So I went to eat the orange, I'm peeling the</p> <p>13 orange, and I notice all this black stuff all over</p> <p>14 the orange peel. I'm thinking, now I got to go --</p> <p>15 something is contaminating my food. I didn't know</p> <p>16 what it was.</p> <p>17 Q. Right.</p> <p>18 A. I'm sitting here peeling this orange and</p> <p>19 it's turning black.</p> <p>20 Q. The rind is turning back?</p> <p>21 A. Yes, the orange, everything I'm touching on</p> <p>22 the orange is starting to turn black.</p>

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<p style="text-align: right;">14</p> <p>1 Q. So you can't even eat your orange now, you 2 are stuck?</p> <p>3 MR. BURATTI: Object to form.</p> <p>4 A. So I go and I wash my hands and I notice 5 that my fingertips are clean.</p> <p>6 BY MR. WARD:</p> <p>7 Q. Uh-huh.</p> <p>8 A. So I went back and I'm like what the heck 9 happened here. So I go back and I start looking at 10 the orange, and I started messing with the orange 11 peels. The orange juice, itself. Everything else. 12 And found out if I squeezed the rind on my hand, 13 that stuff dissolved, loosened up and I could 14 actually wipe it off.</p> <p>15 Q. You started to play around with it?</p> <p>16 A. Right.</p> <p>17 MR. BURATTI: Objection to form.</p> <p>18 BY MR. WARD:</p> <p>19 Q. What happened next.</p> <p>20 A. Obviously, I was excited because I thought 21 I could create a natural cleaning product that 22 would remove stuff off your hands that nothing else</p>	<p style="text-align: right;">16</p> <p>1 was doing, just like we all were. I didn't want to 2 be a windows installer forever. There didn't seem 3 to be any money in it. So I thought you know, I 4 called him up and I said you can't believe what I 5 just discovered.</p> <p>6 Q. Do you recall, was he your personal 7 accountant or the business's accountant?</p> <p>8 A. He was both. Well, you know at the time my 9 personal was my business.</p> <p>10 Q. Go ahead. So you give him a call. Do you 11 remember when that was?</p> <p>12 A. It would have been the next day.</p> <p>13 Q. Really. You were that excited?</p> <p>14 A. Oh, yeah, absolutely.</p> <p>15 MR. BURATTI: Objection to form.</p> <p>16 BY MR. WARD:</p> <p>17 Q. Okay.</p> <p>18 A. So anyway, I called him up and I told him 19 what the deal was, that I had found and he said, 20 Phil, you're a genius. And he said, let's -- I 21 said, you know, you got -- you're a chemist kind of 22 guy, maybe we can make a hand cleaner, some sort of</p>
<p style="text-align: right;">15</p> <p>1 would.</p> <p>2 Q. So even this first time it was working 3 better than the things you traditionally used to 4 clean your hands?</p> <p>5 MR. BURATTI: Objection. Ambiguous.</p> <p>6 A. I don't know, I didn't say that.</p> <p>7 BY MR. WARD:</p> <p>8 Q. I'm asking, not trying to tell.</p> <p>9 A. All I did, all I did was find that the 10 orange oil removed the stuff off my hands.</p> <p>11 Q. Were you surprised?</p> <p>12 A. I was surprised.</p> <p>13 Q. So what did you do about it?</p> <p>14 A. Well, then what I did is I called up Doug 15 Greenspan.</p> <p>16 Q. Why'd you do that?</p> <p>17 A. Because Doug, Doug and I had a fairly good 18 relationship. He was our accountant. And we knew 19 a little bit of his background. I knew that he had 20 an M.B.A. in business, and I knew that he had a 21 minor in chemistry, and I knew that he was looking 22 for, you know, something other than doing what he</p>	<p style="text-align: right;">17</p> <p>1 a natural cleaner that's going to work to take this 2 stuff off of our construction industry's hands.</p> <p>3 Q. All right. So what happened next?</p> <p>4 A. Then --</p> <p>5 Q. You talk on the phone, then --</p> <p>6 A. Yeah, well, I -- I hooked up with him. 7 That weekend, because it was -- I believe it was 8 a -- the Parade of Lights goes on Friday nights and 9 on Saturday. This would have been a Friday night, 10 caution I went over to his place on Saturday, so I 11 went on over there.</p> <p>12 Q. Okay.</p> <p>13 A. And we proceeded to try to find some orange 14 oil so that we could start making concoctions.</p> <p>15 Q. You didn't bring a bag of oranges over with 16 you?</p> <p>17 A. You know, we may have gotten a bag of 18 oranges. You know, I know that I had shown to him 19 that it actually worked, and he thought -- the 20 citric acid in there would naturally dissolve 21 petroleum products. Oh, you're a genius, I never 22 thought of that. So, anyway.</p>

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<p style="text-align: right;">26</p> <p>1 I knew, I would say try this and let me know what</p> <p>2 you think.</p> <p>3 Q. Do you remember the volume, the percentages</p> <p>4 of this product, how much orange oil was in it, how</p> <p>5 much of the other components?</p> <p>6 MR. BURATTI: Objection. Compound.</p> <p>7 A. You know, okay. So let me ask you a</p> <p>8 question. What -- you need to clarify what it is</p> <p>9 you are asking one more time?</p> <p>10 BY MR. WARD:</p> <p>11 Q. Yes, probably the easiest way to get at it</p> <p>12 is, do you remember how much of the composition was</p> <p>13 orange oil?</p> <p>14 MR. BURATTI: Objection. Vague.</p> <p>15 A. What we did is we started out with, we kind</p> <p>16 of used the pH system, okay. And we would use I</p> <p>17 would say 50 percent orange oil in the composition</p> <p>18 to see what happened, and then we would drop it</p> <p>19 down percentage-wise. I think we even went down to</p> <p>20 1 percent, just a small amount of orange oil, based</p> <p>21 on my wife's findings, we needed to figure, well,</p> <p>22 maybe that's too much.</p>	<p style="text-align: right;">28</p> <p>1 A. No, I didn't record anything. That would</p> <p>2 have been Doug.</p> <p>3 BY MR. WARD:</p> <p>4 Q. After somebody tried it for you you told</p> <p>5 Doug what happened?</p> <p>6 MR. BURATTI: Objection to form.</p> <p>7 A. Yes, that is what happened. That didn't</p> <p>8 work here, or it needs to be stronger, or it needs</p> <p>9 to be less, or this one seems to burn and this one</p> <p>10 didn't.</p> <p>11 Q. And do you know if he kept records?</p> <p>12 MR. BURATTI: Objection.</p> <p>13 A. I don't know how he kept records, I</p> <p>14 couldn't answer that.</p> <p>15 BY MR. WARD:</p> <p>16 Q. Did you ever see him write down the</p> <p>17 information you gave him?</p> <p>18 A. I saw him write down the information and I</p> <p>19 saw him write down formulas. That was his --</p> <p>20 Q. He was the chemist, right?</p> <p>21 MR. BURATTI: Object to form.</p> <p>22 A. Right.</p>
<p style="text-align: right;">27</p> <p>1 But, you know, from the small amount on up</p> <p>2 until we found where, A, pH worked well and, B, it</p> <p>3 worked relatively well, cleaned off what it was we</p> <p>4 wanted to clean off.</p> <p>5 Q. Do you remember where that point was?</p> <p>6 MR. BURATTI: Objection.</p> <p>7 A. I don't remember that point. That's Doug's</p> <p>8 deal.</p> <p>9 BY MR. WARD:</p> <p>10 Q. Do you recall ever testing it on anybody</p> <p>11 other than the family?</p> <p>12 A. No animals.</p> <p>13 MR. BURATTI: Objection --</p> <p>14 A. No animal testing.</p> <p>15 BY MR. WARD:</p> <p>16 Q. Uh-huh. I understand.</p> <p>17 A. I had a friend that -- I had a friend that</p> <p>18 was working with me who used it from a window</p> <p>19 installation standpoint, so --</p> <p>20 Q. When you did these tests do you remember if</p> <p>21 you recorded the results in any way?</p> <p>22 MR. BURATTI: Objection to form.</p>	<p style="text-align: right;">29</p> <p>1 (Discussion off the record.)</p> <p>2 BY MR. WARD:</p> <p>3 Q. Tell me, at this point did you and</p> <p>4 Greenspan have any sort of an agreement?</p> <p>5 MR. BURATTI: Objection. Vague.</p> <p>6 A. I don't understand what you mean.</p> <p>7 BY MR. WARD:</p> <p>8 Q. Well, you are working together to make a</p> <p>9 product, correct?</p> <p>10 A. Correct.</p> <p>11 Q. You are working together to get a patent</p> <p>12 application on file, correct?</p> <p>13 A. Correct.</p> <p>14 Q. Did you have some sort of an understanding</p> <p>15 of how you were going to split proceeds, if any?</p> <p>16 MR. BURATTI: Objection. Vague.</p> <p>17 A. We created I think a corporation called</p> <p>18 Midwhelm.</p> <p>19 Q. Could you spell that for us?</p> <p>20 A. M-I-D-W-H-E-L-M. Midwhelm, something like</p> <p>21 that. We didn't want to be an overwhelm and we</p> <p>22 didn't want to be and underwhelm, so we figured</p>

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<p style="text-align: right;">86</p> <p>1 much as you want.</p> <p>2 THE WITNESS: I can read as much as I want?</p> <p>3 MR. BURATTI: The paragraph refers to tests</p> <p>4 in the patent, I just wanted to alert you, you are</p> <p>5 allowed to read more to get up to speed.</p> <p>6 THE WITNESS: Okay.</p> <p>7 MR. BURATTI: You don't have to. You can</p> <p>8 hear the question first.</p> <p>9 THE WITNESS: Roll with the question.</p> <p>10 BY MR. WARD:</p> <p>11 Q. Do you remember how you came up with that</p> <p>12 five percent figure?</p> <p>13 MR. BURATTI: Object to the form.</p> <p>14 A. Well, as I said earlier, we took from</p> <p>15 probably 50 percent orange oil down to maybe even</p> <p>16 one percent and found -- found it worked for what</p> <p>17 we needed it to work.</p> <p>18 And with respect to cosmetics, it would</p> <p>19 have had to do with the burning of my wife's</p> <p>20 eyelids.</p> <p>21 BY MR. WARD:</p> <p>22 Q. That is when the orange oil --</p>	<p style="text-align: right;">88</p> <p>1 one percent level?</p> <p>2 A. I don't remember.</p> <p>3 MR. BURATTI: Objection.</p> <p>4 THE WITNESS: Sorry. I'll slow down for</p> <p>5 you.</p> <p>6 MR. BURATTI: Objection to form.</p> <p>7 MR. WARD: The reporter will catch up with</p> <p>8 us. Don't worry.</p> <p>9 MR. AUCHTER: It's not fair to the</p> <p>10 reporter.</p> <p>11 BY MR. WARD:</p> <p>12 Q. Let's go to Column 9. Just a quick</p> <p>13 question. The last page. Do you see line 4,</p> <p>14 Claim 1 starts on line 4.</p> <p>15 A. Okay.</p> <p>16 Q. Do you want to read that to yourself?</p> <p>17 A. Okay.</p> <p>18 Q. Claim 1 discloses a composition that has</p> <p>19 three ingredients.</p> <p>20 MR. BURATTI: Objection. Sorry.</p> <p>21 BY MR. WARD:</p> <p>22 Q. The first ingredient is identified as</p>
<p style="text-align: right;">87</p> <p>1 A. There was too much.</p> <p>2 Q. There was too much orange oil in that</p> <p>3 initial sample?</p> <p>4 A. Right.</p> <p>5 MR. BURATTI: Objection. Vague.</p> <p>6 BY MR. WARD:</p> <p>7 Q. Do you remember was that a 50 percent</p> <p>8 sample?</p> <p>9 A. I don't believe that was 50, no. But I</p> <p>10 can't -- I don't remember what percentage that was.</p> <p>11 Q. You said you went down all the way to</p> <p>12 one percent?</p> <p>13 A. We went almost down to nothing and then</p> <p>14 back up to see where the effect started in.</p> <p>15 Q. Was it your conclusion that the effects</p> <p>16 started in at five percent?</p> <p>17 MR. BURATTI: Objection misleading.</p> <p>18 A. As far as any conclusions, I didn't come to</p> <p>19 any conclusions, all I was after was my specific</p> <p>20 target was for caulking. Me personally.</p> <p>21 BY MR. WARD:</p> <p>22 Q. Sure. Do you remember what happened at the</p>	<p style="text-align: right;">89</p> <p>1 between 5 and 60 percent by volume orange oil. The</p> <p>2 second ingredient is a pharmaceutically acceptable</p> <p>3 moisturizer and the third ingredient is an</p> <p>4 emulsifying agent. Do you see that?</p> <p>5 A. Well, you had me read section 4. That</p> <p>6 doesn't say that at all.</p> <p>7 Q. I said starting with line 4.</p> <p>8 A. That is number 4, isn't it? Oh, sorry.</p> <p>9 Q. That's okay.</p> <p>10 (Witness examines document.)</p> <p>11 A. It's pretty much mumbo jumbo to me. What</p> <p>12 do you want to know?</p> <p>13 BY MR. WARD:</p> <p>14 Q. I want to know for each of these</p> <p>15 ingredients, we will go through them one at a time,</p> <p>16 whether it was your idea, Greenspan's idea or a</p> <p>17 joint idea. Okay?</p> <p>18 The first idea is five percent to</p> <p>19 60 percent orange oil?</p> <p>20 MR. BURATTI: Objection. Calls for a legal</p> <p>21 conclusion.</p> <p>22 A. That would have been between the two of us.</p>

EXHIBIT D

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GROUP 150



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application for : Date: September 18, 1990
Greenspan and Low : Group: Art Unit 152
Serial No.: 07/413,395 : Examiner: J. Spear
Filed: September 27, 1989 : Action: AMENDMENT
For: CLEANING COMPOSITIONS WITH :
ORANGE OIL :

TO: The Commissioner of Patents and Trademark Office
Washington, DC 20231

Sir:

In response to the Office Action of 18 June 1990, please
reconsider the claims of this application in view of the
following remarks:

REMARKS

These remarks are in response to the Office Action of 18
June 1990 in the above referenced patent application. In that
application, Claims 1-18 were pending. However, Claims 16-18
were deemed withdrawn from consideration despite Applicants'
traverse of the election.

Of the remaining claims, Claim 1 was rejected over Coleman,
The Citrus Industry Publication, November 1975 under 35 U.S.C.
Section 103. Claim 2 was rejected over Coleman in further view
of U.S. Patent No. 4,620,937 to Dellutri under 35 U.S.C. Section
103. Claims 3-7 and 9-15 were rejected over Coleman and Dellutri
in further view of U.S. 4,014,995 to Juliano. Claim 8 was
rejected over the Coleman reference in view of Dellutri and
Juliano and in further view of U.S. Patent No. 4,553,487 to
Jones.

At the outset, Applicants note with appreciation the thoroughness of the Examiner's comments in applying the cited references against the claims. However, Applicants have not amended their claims since they believe that the references teach away from the present invention, as currently claimed, so that all of the claims in this application are allowable over these references. Applicants' position is supported by two arguments.

First, as the Examiner has noted, none of the cited references disclose the use of orange oil as a primary constituent. Rather, each of the references rely on the cleaning properties of d-limonene as the primary cleaning constituent. The Examiner then concludes that it would be obvious to substitute orange oil for the d-limonene since the d-limonene is distilled from a citrus oil.

Simply put, these references do not suggest the use of orange oil alone, but rather teach away from the use of orange oil since they rely on the distillate d-limonene. Applicants have found that undistilled orange oil has higher cleaning properties when used in a composition than distilled d-limonene. Applicants have tested the compositions produced according to the ranges of the present application wherein an equal weight percent of d-limonene was substituted for the orange oil. In each case, the orange oil based composition had superior cleaning properties than the identical composition with an equivalent amount of d-limonene substituted for the orange oil. While Applicants believe that other esters and volatiles in the orange oil may contribute to the enhanced cleaning properties, although the

exact reason for the enhanced cleaning properties has not yet been determined. Nonetheless, Applicants have learned of a surprising result from the raw orange oil in these enhanced cleaning properties. This distinction over the use of d-limonene in the prior art is significant and not at all obvious. Indeed, Applicants have found that their composition is effective on substances such as urethane caulking, paint and tar that resist d-limonene cleaning compositions.

The enhanced cleaning property of orange oil contributes to the second distinction between the compositions recited in this application and the prior art. A review of the prior art shows that d-limonene is used in weight percentage ratios that are above the lower ratios claimed in the present application. These ratios run from a low of 51% d-limonene (Coleman) to a high of approximately 70% d-limonene (Coleman). Dellutri uses approximately 58%-60% d-limonene. As noted in the Coleman reference, citrus oil contains approximately 94% d-limonene so that the equivalent amount of citrus oil necessary to provide the amount of d-limonene in the prior art compositions run from approximately 55%-75%.

Claim 1 of the present application claims a range of 5% to 60% orange oil which, as noted above, allows for greater cleaning ability for lesser of the included cleaning agent (orange oil). Since the expense of orange oil is fairly substantial, this surprising result allows a reduction in the proportion of orange oil as opposed to d-limonene, and this leads to substantial economies.

A derivative benefit is seen where the quantity of orange oil, (and thus the amount of d-limonene) since studies have indicated that d-limonene may have carcinogenic effects. For example, the attached study taken from the National Toxicology Study Program (January 1990) indicates a possible adverse effect from excess d-limonene. Where a cleaning composition is intended as one suitable for hand cleaning, as is the present invention, the benefits from reducing the quantity of d-limonene while maintaining the cleaning ability may be appreciated without further explanation.

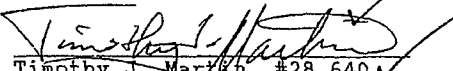
Accordingly, all of the claims in this application are believed allowable for the inclusion of orange oil. However, several points directed to the dependent claims are in order since it is believed that the dependent claims contain allowable subject matter in their own right. In particular, those claims including the use of oat-grain derivatives and oatmeal. Here, it has been found that the oatmeal may lend cleaning properties in that oatmeal acts as a drawing agent to help remove certain oils or other materials from the surface to be cleaned. It also adds an abrasive quality to the cleaning compound to enhance the scrubbing ability.

Based on the foregoing, it is believed that this application is conditioned for allowance and action to that end is courteously solicited. Should the Examiner request any further information, in the form of affidavits or otherwise, regarding the matters addressed in this Amendment, the Examiner is invited to contact attorney for the Applicants at the telephone number

listed below. Applicants would specifically request the opportunity to submit such affidavits in the event that the Examiner maintains the rejection of the present application.

Respectfully submitted,

TIMOTHY J. MARTIN, P.C.


Timothy J. Martin, #28,640 ✓
Dana Rewoldt, #P-33,762
44 Union Blvd., Suite 620
Lakewood, Colorado 80228
(303) 988-0800

CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8

✓ I hereby certify that the foregoing AMENDMENT is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to The Commissioner of Patents and Trademarks, Washington, DC 20231, on this 18th day of September, 1990.



EXHIBIT E

REDACTED

EXHIBIT F


UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

 Address : COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
07/786,804	11/04/91	GREENSPAN	D DN-1364

D.6-

 TIMOTHY J. MARTIN
 44 UNION BLVD., STE. 620
 LAKEWOOD, CO 80228

EXAMINER

BAWA, R

ART UNIT

PAPER NUMBER

1502

6

DATE MAILED: 04/06/92

 This is a communication from the examiner in charge of your application.
 COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

 A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
 Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133
Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-25 are pending in the application.
 Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-25 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

PTOL-326 (Rev.9-89)

BBW 008446

Dear Client:

This is the best copy available, of the attached page(s), due to the condition of the source document.

Please be assured that every effort has been made to supply you with the highest quality documentation.

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Serial No. 786,804

-2-

Art Unit 1502

Claims 1-25 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following phrases are vague and indefinite and must either be deleted from the claimed or clearly specified/defined:

"external use on tissues" (replaced with "external use on human tissues"); "citrus oil" (replaced with "orange oil"); "oat grain derivative product" (specify); "harmful solar radiation" (delete "harmful" or clearly specify the phrase); "over-exposure of the tissue area"; "inflammatory condition of the skin" (specify); "reducing peeling of the human skin;" "damaged tissue" and "human tissue" (replace with "skin" or specify the tissue); "rash-causing poisonous plant"; "emulsifying agent" (specify the agent or replace with "emulsifying agent in the form of oat gum or "soothing" oatmeal").

Note that in claim 25, "ingredient" is repeated.

Appropriate correction required.

Claims 1-6, and 17-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 5,063,062.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both disclose a

Serial No. 786,804

-3-

Art Unit 1502

cleaning composition containing the same ingredients and in the same ratios. The terms "rash," "burn," "acne" etc. are all skin conditions. The terms "orange oil" and "citrus oil" are equivalent.

The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinct from claims in a first patent. *In re Vogel*, 164 USPQ 619 (CCPA 1970). A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1.78(d).

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claim 16 is rejected under 35 U.S.C. § 103 as being unpatentable over Grant et al.

Grant et al. clearly discloses that orange oil is used as a mosquito repellant. Hence, it would be obvious to formulate a

Serial No. 786,804

-4-

Art Unit 1502

composition containing orange oil to repel insects. Accordingly, claim 16 is prima facie obvious.

Claims 7-15 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112 and to include all of the limitations of the base claim and any intervening claims.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

This application does not contain an Abstract of the Disclosure as required by 37 C.F.R. § 1.72(b). An Abstract on a separate sheet is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj Bawa, Ph.D. whose telephone number is (703) 308-2423.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-2351.

R. Bawa

R. Bawa:mbb
April 03, 1992

THURMAN K. PAGE
SUPERVISORY PATENT EXAMINER
ART UNIT 152

TO SEPARATE, HOLD TOP AND BOTTOM EDGES, SNAP-APART AND DISCARD CARBON


FORM PTO-892 (REV. 3-78)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO. 786804	GROUP/ART UNIT 1502	ATTACHMENT TO PAPER NUMBER 6			
NOTICE OF REFERENCES CITED				APPLICANT(S) Greenspan et al.					
U.S. PATENT DOCUMENTS									
*		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE		
A		5063062	11-91	Greenspan	424	401			
B									
C									
D									
E									
F									
G									
H									
I									
J									
K									
FOREIGN PATENT DOCUMENTS									
*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L									
M									
N									
O									
P									
Q									
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)									
R		Grant et al. (1987). Grant & Hackis Chemical Dictionary, page 139.							
S									
T									
U									
EXAMINER R. BAWA			DATE 2/29/92						
 <p>* A copy of this reference is not being furnished with this office action. (See Manual of Patent Examining Procedure, section 707.05 (a).)</p>									

EXHIBIT G



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EAP
07/28/92
S/a

RE: Patent Application for : Date: July 6, 1992
Greenspan et al : Group: Art Unit 1502
Serial No.: 07/786,804 ✓ : Examiner:
Filed: November 4, 1991 : Action: AMENDMENT
For: CITRUS OIL COMPOSITIONS AND :
USES THEREOF :
:

TO: The Commissioner of Patents and Trademark Office
Washington, DC 20231

RECEIVED
JUL 27 1992

Sir:

GROUP 150

In response to the Office Action dated 6 April 1992, please
amend the above identified application as follows:

In the specification

Page 1, delete the title " CITRUS OIL COMPOSITIONS AND USES
THEREOF and substitute --AN INSECTICIDE REPELLENT, ACNE
TREATMENT, SUNBURN TREATMENT AND RASH TREATMENT FORMULATED OF
CITRUS OIL COMPOSITIONS--.

Page 5, line 11, delete ";" and substitute --,--.

Page 6, line 12, delete "damages" and substitute --damaged--.

line 13, delete "damages" and substitute --damaged--.

Page 9, line 23, delete "base" and substitute --based--.

In the claims:

Claim 1, line 2, delete "tissues" and substituted --human
skin--.

3. (Once Amended) A ^{method} ~~composition~~ according to claim 1
wherein said emulsifying agent is an oat grain derivative product

A2
Cont'd

selected from a group consisting of: oat gum and oatmeal.

Please delete claim 4.

A3
Sub. 12

7. (Once Amended) A method of treating damaged human skin [tissue] by applying to [a] the damaged human skin [tissue] area the composition of claim 1.

Claim 8, line 2, delete "tissue" and substitute --human skin--.

Claim 10, line 2, delete "tissue" and substitute --human skin--;

line 3, delete "harmful".

Claim 11, line 2, delete "tissue" and substitute --human skin--.

Claim 14, line 3, delete "rash-causing poisonous" and substitute --dermatitis-causing--.

Claim 16, line 2, delete first and second occurrence of "tissue" and substitute in the first and second occurrence --skin--.

Claim 17, line 4, delete "an" and substitute --a grain based--.

Claim 22, line 2, delete "tissues" and substitute --skin--.

Claim 23, line 2, delete "tissues" and substitute --skin--.

Claim 24, line 4, delete "an" and substitute --a grain based--.

Claim 25, line 5, delete "ingredient";

line 9, delete "an" and substitute --a grain based--.

REMARKS

The Examiner rejected claims 1-25 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. To comply with the Examiner's suggestion, the Applicant has changed the word "tissue" throughout the claims to reflect "human skin".

The Examiner has requested that citrus oil be replaced by orange oil. The Applicant respectfully declines to change citrus oil to orange oil. Specify only orange oil in the claims is simply an incorrect statement of what the invention teaches. The invention has used various citrus oils including lemon oil, lime oil, tangerine oil, grapefruit oil, orange oil, etc. Therefore, the claims should cover what the invention actually teaches. Citrus oil appears to be adequately reflect what the invention teaches.

Claim 3 was amended to clearly specify what oat grain derivative products were being referred to in the claim.

Claim 10 was amended to delete the word harmful.

"Over-exposure of the tissue area" and "inflammatory condition of the skin" were considered indefinite terms by the Examiner. The Applicant has corrected over-exposure of the tissue are to

reflect over-exposure of the skin area.

The Applicant is at a loss as to what the Examiner finds vague about inflammatory condition of the skin. The definition of inflammatory in the dictionary says "a condition in which something is inflamed." "Inflamed" means "to be affected by inflammation." "Inflammation" when used in reference to skin tissue means "localized heat, redness, swelling and pain as a result of irritation, injury or infection." (See, The American Heritage Dictionary). Accordingly, Applicant does not understand the Examiner's position in this regard.

The Examiner has stated that rash-causing poisonous plant is considered indefinite. Rash-causing and dermatitis-causing are equivalent. Thus, the Applicant's attorney has replaced "rash-causing poisonous plant" with "dermatitis-causing plant".

The Examiner has requested that "an emulsifying agent" be amended to specify the agent. Therefore, "emulsifying agent" now has been amended to stated "grain based emulsifying agent".

The repetition of the word "ingredient" in claim 25 which the Examiner noted has been corrected.

Claims 1-6 and 17-25 were rejected under the judicially created doctrine of obviousness-type double patenting. Thus, filed concurrently with this Amendment, the Applicant has submitted two terminal disclaimers signed by Doug Greenspan who is an assignee and an inventor in the patent and William Ingram who is an assignee of the patent. The joint inventor, Phillip Low, no longer has any interest in the patent. Mr. Low's

interest has been jointly assigned to both Doug Greenspan and William Ingram.

The Examiner rejected claim 16 under 35 U.S.C. §103 as being unpatentable over Grant et al. The Applicant admits that Grant et al clearly shows that lemongrass has a constituent that is used as a mosquito repellent. However, lemongrass is a plant. Lemongrass is not a citrus oil nor has the prior art shown that citrus oil or orange oil are oils that are used as mosquito repellents. Therefore, Applicant submits that claim 16 is allowable as written.

Because the Applicant has submitted the terminal disclaimers and thus has removed all of the rejections to claims 1-6 and 17-25, the Applicant believes that claims 7-15 should be allowable as written.

The Examiner has required that Applicant rename the title of the invention; therefore, the Applicant has amended the title on page 1 of the specification to state "An Insecticide Repellent, Acne Treatment, Sunburn Treatment and Rash Treatment Formulated of Citrus Oil Compositions".


Filed concurrently with this Amendment is an abstract which the Examiner had requested that Applicant submit.

The Applicant submits that the present invention is now in complete form and should be allowable as amended. Action to this effect is courteously solicited from the Examiner. No other prior art patents alone or in combination fully and fairly disclose the structure now recited in the above discussed claims.

The Examiner is requested to grant an early allowance in this matter.

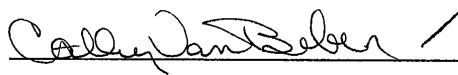
Respectfully submitted,

TIMOTHY J. MARTIN, P.C.


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Lakewood, Colorado 80228
(303) 988-0800

CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8

I hereby certify that the foregoing AMENDMENT, TERMINAL DISCLAIMER AND ABSTRACT is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to The Commissioner of Patents and Trademarks, Washington, DC 20231, on this 13 day of July, 1992.





ABSTRACT

The present invention is a composition that can be topically applied to human skin for cleaning the skin, for treating and/or relieving certain skin conditions, such as acne, sunburn and rashes. Furthermore, the composition can be used as an insect repellent. The present invention is formed of natural ingredients and contains citrus oil as an active constituent. The composition of the invention includes five percent to sixty percent by volume of citrus oil, and a pharmaceutically acceptable moisturizer for human skin, and an emulsifying agent. More specifically, the citrus oil can be orange oil, lemon oil, grapefruit oil, tangerine oil and the like with orange oil being the preferred oil. The pharmaceutically acceptable moisturizer is from a group consisting of glycerin, aloe vera, jojoba oil and safflower oil. The emulsifying agent may function as an emollient and is preferably made of a natural grain derivative particularly useful are oat gum and oat meal. The citrus oil and the moisturizer and the emulsifying agent are mixed in a ratio such that the resulting composition has a pH range of 4.5 to 6.0. A buffering compound can be added to the composition to reach the preferred pH range.